

Factors Related to Parental Perceptions and Awareness of Adolescent Cyberbullying in Selangor, Malaysia

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ABSTRACT

INTRODUCTION: The rise of digital technology has heightened concerns about adolescent cyberbullying, emphasising the importance of parental perceptions and awareness. This study assessed parental perceptions and awareness of adolescent cyberbullying and identified associated factors among secondary school parents in Selangor, Malaysia. **MATERIALS AND METHODS:** A cross-sectional study was conducted from June-September 2023 involving 522 parents, selected through multistage cluster sampling. Data were collected using the validated 33-item Parental Perception and Awareness of Cyberbullying Questionnaire (KEPS-I). Multiple linear regression analyses identified associated factors. **RESULTS:** The overall mean score for parental perceptions and awareness was 3.96 (SD=0.44). Parents demonstrated the highest awareness in cyberbullying prevention strategies but scored lowest in knowledge of internet and social media platforms. Younger parents exhibited greater awareness, likely due to their familiarity with digital technology (adjusted $b=-0.475$, $P<0.001$). Parents who used the internet daily were also more aware (adjusted $b=5.670$, $P=0.041$), while non-Bumiputera parents showed lower scores, reflecting gaps in digital literacy or access to information (adjusted $b=-3.035$, $P=0.037$). Only 2.5% of parents reported their child's experience with cyberbullying, indicating possible underreporting. **CONCLUSION:** Gaps in digital literacy, particularly among older and non-Bumiputera parents, highlight the need for targeted educational initiatives and school policies to improve parental awareness and intervention strategies. Future research should evaluate digital literacy programs and explore adolescent perspectives to better address underreporting and strengthen prevention efforts.

Keywords

Cyberbullying, Parental Awareness, Parental Perception, Adolescents, Selangor

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INTRODUCTION

In the digital age, adolescents' use of the internet and social media has surged, providing unprecedented opportunities for education, communication, and social interaction. However, this connectivity also brings significant risks, including cyberbullying, which poses severe threats to the mental health and well-being of young users. Cyberbullying, defined as deliberate and repeated online aggression via digital devices, affects adolescents globally, often leaving victims with long-lasting emotional and psychological scars.^{1,2} Prevalence studies report global rates of cyberbullying victimisation ranging from 14.6-52.2%, with perpetration rates between 6.3-32%.³ In Malaysia, the issue is equally concerning, with the country holding the second-highest youth cyberbullying rate in Asia.⁴

A study in Selangor found that 13.3% of secondary school students had experienced cyberbullying, predominantly through instant messaging.⁵ Adolescents are particularly vulnerable due to their heavy engagement with social media and digital platforms, which increases their exposure to online risks.^{6,7} This reliance on digital communication tools is particularly pronounced during middle adolescence, a period marked by heightened social connectivity.^{8,9} The COVID-19 pandemic further exacerbated the issue, with virtual learning environments intensifying exposure to online harassment.^{9,10}

Parents play a crucial role in safeguarding adolescents from cyberbullying. However, research shows that many parents lack awareness of their children's online activities

and the associated risks.^{11,12} For instance, in the United States, 95% of adolescents aged 13-17 years old have access to smartphones, with a growing prevalence of daily internet usage.¹³ Alarming, studies report that 35.9% of parents never monitor their children's online activities, 51.9% do not supervise social media usage, and 43.6% fail to educate their children on safe internet practices.¹⁴ This limited parental involvement may be attributed to factors such as permissive parenting styles and difficulties in keeping pace with the rapidly evolving digital landscape.^{11,15}

Globally, similar trends have been observed, with cultural and systemic differences further influencing how parents perceive and respond to cyberbullying risks. For example, in Israel, parents were found to be aware of the psychological and legal implications of cyberbullying, yet their knowledge often remained superficial, typically derived from media rather than communication with their children, leading to significant gaps in effective intervention.¹⁶ In Saudi Arabia, parents recognised the harmful effects of cyberbullying and stressed the importance of internet monitoring but often relied on schools and stricter laws to address the issue, reflecting a reactive approach.¹⁷ Similarly, in Canada, many parents underestimated their children's involvement in cyberbullying, either as victims or perpetrators, due to their limited familiarity with newer digital platforms.¹⁵ These findings highlight a global gap in parental awareness, shaped by cultural and systemic factors, which underscores the need for localised research to address specific contextual challenges.

Despite the growing prevalence of cyberbullying, Malaysian research predominantly focuses on adolescents, with limited attention to parental perspective.¹⁸⁻²⁰ Alarming, previous studies suggest that parents often underestimate the seriousness of cyberbullying and its potential impact.^{11,21} To date, only one study in Malaysia has examined parents' knowledge, attitudes, and perceptions of cyberbullying, underscoring a critical gap in the literature.²²

This study aims to address these gaps by evaluating parental perceptions and awareness of adolescent

cyberbullying in Selangor and identifying associated sociodemographic and child-related factors. It is hypothesised that these factors significantly influence parental perceptions and awareness of cyberbullying.

MATERIALS AND METHOD

Study Design and Sampling Method

This cross-sectional study was conducted from June-September 2023 among parents of secondary school students in Selangor, Malaysia. A multistage cluster sampling method was employed to select participants. The sampling process began with the random selection of four districts from Selangor's nine districts, ensuring representation of both urban and rural areas to enhance generalizability. Within each district, two national secondary schools were randomly chosen, followed by a random selection of two classes from each school. All parents of students in these classes were invited to participate. Parents were included if their children were present in school during data collection. Exclusion criteria included parents who were illiterate or unable to understand the Malay language, as the questionnaire was administered in Malay.

Ethical approval was obtained from the Human Research Ethics Committee, Universiti Sains Malaysia (reference number: USM/JEPeM/KK/23010098), and the study was registered with the National Medical Research Register (reference number: NMRR ID-23-005530N7H). School principals provided permission, and participants gave informed consent, with confidentiality strictly maintained.

Study Sample Size

The sample size was calculated using G*Power software,²³ considering a medium effect size (0.15), Type 1 error rate of 0.05, and a power of 0.80 with 15 predictors. Accounting for a 30% non-response rate and the design effects of cluster sampling, resulting in a required sample size of 605. A total of 605 parents were recruited, with 522 providing complete and usable responses, yielding a response rate of 88%.

Study Instruments

Data were collected using a self-administered questionnaire in two sections. The first section gathered sociodemographic data of participants and their children, including variables such as online behaviour, history of cyberbullying victimisation, and parent-child relationship quality.

The second section utilised the validated Malay version of the Parental Perception and Awareness on Cyberbullying Questionnaire (KEPS-I).²⁴ The validation process involved 270 parents or caregivers with school-going children, aged between 20-60 year old, from primary and secondary schools. The questionnaire underwent exploratory and confirmatory factor analyses to establish construct validity. It demonstrated acceptable factor loadings exceeding 0.40 and strong internal consistency reliability, with Cronbach's alpha values ranging from 0.894 to 0.939.²⁴

The KEPS-I comprises 33 items across five domains: i) perceptions and effects of cyberbullying, ii) perceptions of preventive measures, iii) family practices related to internet usage, iv) internet and social media knowledge, and v) knowledge acquisition regarding cyberbullying. Responses were recorded on a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5), with higher scores indicating greater perception and awareness of cyberbullying.

Data Collection

Data collection was conducted in collaboration with school counsellors, who distributed questionnaires to students for delivery to their parents. Parents returned completed questionnaires in sealed envelopes within a week, which were retrieved by the researcher. Contact information for the primary researcher was included to address any inquiries from the participants. Each questionnaire was assigned a unique reference number to ensure anonymity and confidentiality.

Statistical Analysis

Data were analysed using IBM SPSS version 26.0. Descriptive statistics summarised the participants'

sociodemographic characteristics and KEPS-I scores. Simple and multiple linear regression analyses assessed the association between sociodemographic factors and cyberbullying awareness, with a p-value of less than 0.05 considered statistically significant. Results included adjusted β coefficients, confidence intervals, and t-statistics.

In this study, 'daily internet and social media use' referred to parents' consistent engagement with digital platforms, such as social media, web browsing, or messaging applications, on a daily basis, irrespective of duration. 'Perceived closeness in parent-adolescent relationships' was defined as the parents' subjective evaluation of their emotional connection with their child, which included components such as trust, communication, and support.

Certain variables were re-coded during the analysis due to low response rates for specific categories. For instance, ethnicity was simplified into two groups: 'Bumiputera' (coded as '0' comprising Malay and Indigenous groups, and 'Non-Bumiputera' (coded as '1') including Chinese and Indian ethnicities. Marital status was re-categorised into 'one-parent' households (coded as '0') for divorced or widowed participants, and 'two-parent' households (coded as '1') for married participants. Educational level was grouped into 'lower education level' (coded as '0') for parents with primary or secondary school qualifications, and 'higher education level' (coded as '1') for those with college or university education. Similarly, monthly household income was dichotomised into 'lower-income' (coded as '1') for parents earning less than RM 4,850, and 'higher-income' (coded as '0') for those falling within the middle 40% (M40) or top 20% (T20) income groups earning RM 4,850 and above.

RESULTS

Participant Characteristics

The mean age of the participants was 45.74 (SD 5.23) years old, and the majority were female (61.3%). Most participants identified as Malay (74.2%), were married (94.1%) and reported being employed (82.6%). A majority (67.0%) had attained a college or university education. Additionally, 94.8% of the parents reported using the

internet and social media daily. Detailed demographic characteristics of the participants and their children are presented in Table I.

Table I: Sociodemographic characteristics of participants and their children (n=522)

Variables	n (%)
Parental factors	
Age (years)	45.74 (5.23)*
Sex	
Male	202 (38.7)
Female	320 (61.3)
Ethnicity	
Malay	387 (74.2)
Chinese	67 (12.9)
Indian	56 (10.7)
Others	12 (2.3)
Marital status	
Divorced	21 (4.0)
Widow	10 (1.9)
Married	491 (94.1)
Number of children	
Two and more	495 (94.8)
One	27 (5.2)
Highest formal education	
Primary school	3 (0.6)
Secondary school	169 (32.4)
College / University	350 (67.0)
Employment Status	
Employed	431 (82.6)
Unemployed	91 (17.4)
Monthly household income	
≥RM10960 (T20)	142 (27.2)
RM4850 to RM10959 (M40)	187 (35.8)
<RM4850 (B40)	193 (37.0)
Use internet and social media daily	
No	27 (5.2)
Yes	495 (94.8)
History of cyberbullying victimisation	
No	491 (94.1)
Yes	31 (5.9)
Perceived close parent-adolescent relationship	
No	10 (1.9)
Yes	512 (98.1)
Children's factors	
Age (years)	
16	253 (48.5)*
14	269 (51.5)*
Sex	
Male	268 (51.3)
Female	254 (48.7)
Disability	
No	503 (96.4)
Yes	19 (3.6)
Experience cyberbullying victimisation (reported by parents)	
No	509 (97.5)
Yes	13 (2.5)

*mean(SD)

Parental Perceptions and Awareness of Cyberbullying

The overall mean score for parental perceptions and awareness of cyberbullying was 3.96 (SD=0.44). Among the five domains assessed, parents scored the highest in perceptions of preventive measures against cyberbullying

[mean=4.40 (0.47)] and the lowest in knowledge of the internet and social media [mean=3.61 (0.66)]. Table II shows the mean scores for each domain of the KEPS-I questionnaire.

Table II: Mean score for parental perceptions and awareness of cyberbullying (n=522)

Measure	Mean (SD)
Perceptions and extent of cyberbullying	4.20 (0.51)
Perceptions of preventive measure of cyberbullying	4.40 (0.47)
Family practice on using the Internet	3.90 (0.68)
Level of knowledge on the internet and social media	3.61 (0.66)
Acquisition of knowledge about cyberbullying	3.66 (0.60)
Total mean score for KEPS-I	3.96 (0.44)

Note: SD=standard deviation

Factors Associated with Cyberbullying Awareness

The multiple linear regression analysis identified several significant predictors of cyberbullying perceptions and awareness among parents: age, ethnicity, and daily internet and social media use. Parental age was inversely associated with awareness scores, with each one-year increase in age resulting in a decrease of 0.475 in the awareness score (95% CI:-0.704,-0.246; P<0.001). Parents of Non-Bumiputera ethnicity had significantly lower awareness scores compared to Bumiputera parents (Adjusted b=-3.035; 95% CI:-5.893, -0.177; P=0.037). Conversely, parents who reported daily use of the internet and social media exhibited higher awareness scores (Adjusted b=5.670; 95% CI:0.244, 11.115; P=0.041).

The final regression model satisfied all assumptions for multiple linear regression, including linearity, normality of residuals, and homoscedasticity. No significant interactions were identified among the independent variables, and multicollinearity was not detected. Consistent results were obtained using forward, backward, and stepwise selection methods. Table III shows the details of the analysis.

DISCUSSION

This study explored parental perceptions and awareness of cyberbullying, revealing a mean KEPS-I score of 3.96 (SD = 0.44). Although the KEPS-I tool is unique to this study, comparisons can be drawn with previous research

Table III: Simple and multiple linear regression of factors related to perceptions and awareness of cyberbullying score among parents (N=522)

Variables	Simple linear regression		Multiple linear regression		
	Crude b (95% CI)	P-value	Adjusted b (95% CI)	T-stat	P-value
Parental factors					
Age	-0.509 (-0.738, -0.279)	<0.001	-0.475 (-0.704, -0.246)	-4.069	<0.001
Sex					
Male	1				
Female	3.149 (0.655, 5.644)	0.013	2.252 (-0.222, 4.726)	1.789	0.074
Ethnicity					
Bumiputera	1				
Non-Bumiputera	-4.145 (-7.003, -1.288)	0.005	-3.035 (-5.893, -0.177)	-2.086	0.037
Marital status					
One-parent	1				
Two-parent	0.441 (-4.729, 5.612)	0.867			
Number of children					
Two and more	1				
One	0.355 (-5.163, 5.873)	0.900			
Highest formal education					
Lower education level	1				
Higher education level	1.768 (-0.828, 4.363)	0.182	0.723 (-1.872, 3.319)	0.547	0.584
Employment status					
Employed	1				
Unemployed	1.596 (-1.623, 4.814)	0.331			
Monthly household income					
Higher-income	1				
Lower-income	-1.277 (-3.806, 1.252)	0.322			
Use internet and social media daily					
No	1				
Yes	6.871 (1.384, 12.357)	0.014	5.670 (0.244, 11.115)	2.046	0.041
History of cyberbullying victimisation					
No	1				
Yes	-2.122 (-7.289, 3.046)	0.420	-2.207 (-7.381, 2.966)	-0.838	0.402
Perceived close parent-adolescent relationship					
No	1				
Yes	5.034 (-3.871, 13.939)	0.267	6.713 (-2.013, 15.439)	1.511	0.131
Children's factors					
Age					
16 years old	1				
14 years old	1.968 (-0.471, 4.408)	0.114	1.037 (-1.441, 3.516)	0.822	0.411
Sex					
Male	1				
Female	-1.161 (-3.604, 1.283)	0.351			
Diagnosed with any form of disability					
No	1				
Yes	-1.421 (-7.945, 5.103)	0.669			
Experience cyberbullying victimisation					
No	1				
Yes	-4.780 (-12.611, 3.052)	0.231	-4.653 (-12.291, 2.986)	-1.197	0.232

Note: CI=confidence interval; R2=5.4%; forward/backward/stepwise multiple linear regression applied; model assumptions are fulfilled; no interactions among independent variables; no multicollinearity detected

using different methodologies. For example, Clarke²⁵ utilising the Parents' Perception and Awareness of Cyberbullying (PPAC) scale, found that parental beliefs and practices regarding cyberbullying were moderate. Despite differences in tools and study designs, the findings from both studies highlight similar patterns of parental engagement in addressing cyberbullying. Specifically, Clarke observed strong parental confidence in prevention strategies, which aligns with the high scores in the preventive measure domain in this study.

The results emphasised the importance of media platforms in raising awareness and preventing cyberbullying. Parents strongly agreed that the media should play a role in prevention efforts, underscoring the impact of media-driven educational campaigns. Previous studies support this finding; for instance, Vranda²⁶ highlighted how print media fosters public awareness by reporting incidents of cyberbullying and its societal consequences. Similarly, social media campaigns can quickly disseminate preventive messages, promote positive online behaviour, and advocate for robust policies and laws.²⁷ Traditional media such as radio and television were also significant sources of parental knowledge about cyberbullying, as reported by Nazmul et al.²² These findings suggest that leveraging both digital and traditional media is critical in educating parents, particularly those less familiar with digital platforms, to promote collective action against cyberbullying.

Parental involvement emerged as another key theme in this study, reinforcing findings from prior research. Active parental engagement, characterised by nurturing and supportive behaviours, fosters open communication between parents and adolescents. Studies have shown that such involvement reduces problematic internet use and encourages disclosure of online experiences.^{28,29} Additionally, parents' responsiveness and monitoring strategies significantly decrease bullying behaviours.³⁰ However, prior studies, including Cassidy et al.³¹ suggest that many educators perceive parents as lacking awareness of their children's online activities, which may undermine efforts to address cyberbullying effectively. These insights highlight the importance of strengthening parental

oversight and promoting collaborative interventions involving parents, schools, and policymakers.

Interestingly, the lowest KEPS-I scores were observed in the “Knowledge on the internet and social media” domain, particularly concerning newer platforms like Snapchat and WeChat. These findings are consistent with prior research indicating that parents are often more familiar with older technologies while lacking an understanding of newer platforms.^{15,32} This generational gap underscores the need for targeted educational programs to enhance parents’ digital literacy and ability to address cyberbullying effectively.

Three key factors significantly influenced parental perceptions and awareness of cyberbullying. First, parental age was inversely associated with awareness, with younger parents scoring higher. This aligns with previous research indicating that younger parents are more adept with digital technologies and online risks.^{22,33} Older parents, on the other hand, may face challenges in adapting to newer technologies, which can create a digital divide that hinders effective communication with their children about online safety.³⁴ Bridging this gap through targeted interventions to improve technological literacy among older parents may enhance their awareness and ability to address cyberbullying.

Second, ethnicity played a significant role, with Non-Bumiputera parents scoring lower than Bumiputera parents. Cultural differences in community resources and support systems may account for these variations.³⁵ For instance, Bumiputera communities may have stronger networks that facilitate education on cyberbullying, while Non-Bumiputera groups may face barriers to accessing similar resources. Addressing these disparities through culturally sensitive interventions is crucial for improving awareness across all ethnic groups.

Finally, daily internet and social media use was positively associated with awareness, indicating that parents who are regularly engaged with digital platforms are better equipped to recognise and address cyberbullying risks.³⁶ Encouraging parents to increase their familiarity with online environments may further enhance their ability to

support their children in navigating these spaces.

A relatively low percentage of parents in this study reported their child’s experience with cyberbullying, which may reflect underreporting or lack of awareness. Previous research indicates that 52% of Malaysian adolescents have reported experiences of online victimisation,³⁷ while 21% of American parents acknowledged that adolescents aged 12-17 years old had experienced cyberbullying.³⁸ This discrepancy suggests that many parents may remain unaware of their children’s experiences, likely due to limited communication or the concealed nature of cyberbullying. Adolescents often refrain from disclosing such incidents to adults out of fear that doing so might result in restricted internet access, heightened parental monitoring, or reduced autonomy in their digital activities.^{39,40} Consequently, the low prevalence of reported cyberbullying victimisation in this study sample may have constrained the ability to identify significant associations in the analysis.

This study has several limitations. The reliance on self-reported data introduces the potential for biases, including social desirability bias and recall bias. To address this limitation, the study ensured that responses were anonymous and confidential to encourage parents to answer honestly. Additionally, the cross-sectional design limits the ability to establish causal relationships between variables. Sampling-related limitations, such as potential response bias due to non-response or exclusion of illiterate parents, may also affect the generalizability of the findings.

Future research could address these limitations by adopting longitudinal designs to explore changes in parental awareness over time. Studies could also examine factors such as parental mental health, family dynamics, and exposure to media reports on cyberbullying, which may influence awareness. Incorporating adolescents’ perspectives would provide a more comprehensive understanding of the discrepancies in cyberbullying reporting and victimisation. Furthermore, intervention studies targeting older parents and culturally diverse groups could offer valuable insights into strategies for improving cyberbullying awareness.

CONCLUSION

This study highlights the factors influencing parental perceptions and awareness of cyberbullying in Malaysia, revealing significant associations with parental age, ethnicity, and daily internet and social media use. The findings underscore the critical role of younger parents and those more engaged with online platforms in recognising cyberbullying risks, while also identifying disparities in awareness among different ethnic groups. These insights contribute to a deeper understanding of parental engagement in the digital safety of adolescents.

To enhance the practical impact, these findings could guide the development of targeted school policies and parental education programs in Malaysia. Schools could implement awareness campaigns tailored to bridge the generational and cultural gaps in cyberbullying knowledge, equipping parents with the skills needed to monitor and support their children's online activities effectively. Furthermore, integrating cyberbullying education into school-parent engagement activities, such as workshops or digital safety seminars, could strengthen collaboration between parents, educators, and policymakers.

Future research should explore adolescent perspectives to address discrepancies in reported cyberbullying victimisation and evaluate the effectiveness of interventions designed to improve parental awareness. By addressing these gaps, stakeholders can create a more cohesive and informed approach to preventing and managing cyberbullying in Malaysia.

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CONFLICT OF INTEREST

None

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